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ABSTRACT

The purpose of the investigation was to develop and test an audio-tutorial program for a course in Basic Reference. The design of the investigation was a posttest-only-control group design with 63 students randomly assigned to either an audio-tutorial or a lecture group. Data were collected and analyzed using a t-test for two groups and four variables. No significant difference was found between students in the audio-tutorial and the lecture group in either learning ability or satisfaction with course methodology. However, students in the audio-tutorial group were found to be more satisfied with their performance in the course. Based on the findings of this study, the audio-tutorial program which was developed for this purpose may be considered a viable alternative to the lecture approach in teaching a course in Basic Reference. Appendices provide both the final examination and the evaluation questionnaire for the course. (Author/JD)

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FINAL REPORT

Project No. 475AH50065
Grant No. G007500622

A COMPARISON OF TWO TEACHING METHODOLOGIES FOR A COURSE IN BASIC REFERENCE

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ABSTRACT

The purpose of the investigation was to develop and test an audio-tutorial program for a course in Basic Reference. The design of the investigation was a posttest-only-control group design with 63 students randomly assigned to either an audio-tutorial or a lecture group. Data were collected and analyzed using a t-test for two groups and four variables.

No significant difference was found between students in the audio-tutorial and the lecture group in either learning ability or satisfaction with course methodology. However, students in the audio-tutorial group were found to be more satisfied with their performance in the course than those in the lecture group. Based on the findings of the study, the audio-tutorial program which was developed for this purpose may be considered a viable alternative to the lecture approach in teaching a course in Basic Reference.

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CHAPTER I

INTRODUCTION

The purpose of the project was to develop and test materials for an audio-tutorial course in Basic Reference. Essentially the investigation sought to determine whether students involved in an audio-tutorial program for Basic Reference would differ from those in the usual lecture approach in either learning abilities and/or attitude toward course content and/or processes.

The investigation was conducted during the 1975-76 academic year at the Graduate Library School of the University of Arizona. Study was carried out to determine the effects, if any, on the learning abilities and attitudes of students in two types of learning environments: the traditional lecture course and the experimental audio-tutorial course. A total sample of 63 students was involved in the investigation, with both lecture and audio-tutorial groups being taught by the investigator.

Data were collected and analyzed to determine whether students in the audio-tutorial group would demonstrate greater understanding of certain theoretical suppositions about the reference process and greater knowledge of the basic reference tools than those students in the lecture group; and, whether students in the audio-tutorial group would express greater satisfaction with the conduct and content of the course and with their own performance and knowledge from the course than those students in the lecture group. While students in the audio-tutorial group had slightly higher means in all four areas of concern, the results of analysis suggested that only student self-satisfaction was a significant variable. Based on the findings of the study, it may be stated with a certain degree of confidence that the audio-tutorial method of teaching a course in Basic Reference is a satisfactory alternative to the more traditional lecture method. It may even be that students experience a greater degree of personal growth when given control over their own learning experiences.

One of the truths with which we live in this latter part of the twentieth century is the fact that it is a period of great change. Change is being asked of individuals in their personal and professional lives at a rate never before experienced in mankind's history. The need to prepare, not only future librarians who will enter this world of change, but also those individuals within the profession who are continually in need of updated professional growth, demands new ways of looking at library education. To meet these changing times, graduate library schools must develop varied and improved means of professional preparation.

In 1973 a project, under the auspices of the U.S. Government, on the general "improvement" of library education was carried out at the University of Southern California under Martha Boaz (1973) as Senior Scholar in Residence. Boaz concluded as a result of the project that the quality of teaching in graduate library schools should improve, and that more innovative methods should be explored and developed. She emphasized flexibility, independent study and programmed instruction as some of the ways to bring about such change.

In noting targets for research into the improvement of library education, both Leiberman (1973) and Dunkin (1968) called for change in the following areas: in the quality of library education, in the development of more efficient instructional processes, and in the individualization of learning. In short, the need of library education was seen as bringing humanistic qualities of education to a field that is essentially a helping profession.

A number of library education studies in the past (Baechtold 1968; Maron, Humphrey, Meredith 1969; and McWeeney 1974) have focused on such teaching innovations as computer-assisted instruction, open-circuit and closed-circuit television and the use of tele-lecture for courses in cataloging and reference. The investigator had carried out some preliminary study utilizing the audio-tutorial method of teaching and was unaware of any empirical investigations regarding its use in the field of librarianship. It appeared, therefore, that the audio-tutorial method might also prove a useful method of instruction in that it provides an efficient method of delivering information, individualizes instruction, and makes use of the newer media.

The basic idea behind the audio-tutorial system is simple: a teacher assembles the materials that would be used for the instruction of <u>one</u> student, and, while surrounded with these materials, talks into a tape recorder as if tutoring a friend through a sequence of learning activities. The tape and integrated learning materials can be duplicated as many times as necessary to accommodate any number of students. The student, in turn, surrounded by these materials, listens to the tape, carries out the learning activities as directed, and thus experiences a simulated one-to-one, teacher-to-student learning situation--or a tutorial experience.

The A-T system in its present form was originated by Dr. S. N. Postlethwait (1972) at Purdue University in 1961 to teach freshman biology courses. It has since developed as a complete learning system involving: a self-instructional taped program, a General Assembly Session, or GAS, which is a large group lecture; and a Small Assembly Session, or SAS, which is a small discussion group.

The A-T system incorporates objectives, the audio taped program, printed student materials including study guide, bibliography and learning activities--and in the case of the Basic Reference course--a laboratory collection of reference books. The system is flexible, lends itself to many and varied uses, and ultimately insists that learning be done by the learner.

There are a number of advantages to the audio-tutorial system over the traditional lecture approach. First, the system emphasizes the concept that learning must be done by the learner, thus, helping to develop in students a sense of responsibility, maturity and independence--highly desirable for graduate students headed toward professional roles. Second, it is an efficient and economical process, in that it frees both student and teacher. The student is free to schedule much of his or her own learning and to spend as much or little time as needed in listening to the information provided. The teacher, in turn, is free of the repetitive monotony of the lecture method and can be assured that the content is accurate, concise and the delivery polished. Third, it is an individualized approach to learning that can be both personalized and humanized. Fourth, and lastly, it is a highly flexible system, suited to competency-based, continuing and off-campus library education programs for both graduate and undergraduate students.

It is the hope of the investigator that with the completion of this investigation regarding the audio-tutorial method of teaching Basic Reference, other teachers in other library education programs will use and test the method as an alternative to the traditional lecture approach. It is the goal of this Final Report to help stimulate interest in, as well as explain, the use of the A-T system for the teaching of Basic Reference, and also to encourage other course development which may be suited to this type of educational methodology.

Chapter One has provided the introduction to the study and investigation of two methodologies of teaching Basic Reference: the traditional lecture approach and the experimental audio-tutorial approach. The justification for the study, the findings and the nature of the audio-tutorial method have been reviewed. The organization for the remainder of the Final Report is as follows: Chapter Two will cover the methods and procedures of the investigation. It will include the plan, sampling procedures and design of the study and the development of the audio-tutorial materials. Chapter Three will deal with data collection and the results of the investigation. It will include information about the experimental setting, method of data collection and analysis, the result of the data analysis will be described. The final chapter, Chapter Four, will summarize the findings, draw conclusions, note limitations of the study and make recommendations regarding additional investigation. Utilization of the A-T method for a variety of purposes, including competency-based education models, will be explained in the final chapter.

CHAPTER II

METHODS AND PROCEDURES

Chapter Two will cover the methods and procedures that were utilized to carry out the investigation involving a comparison study of two methodologies of teaching a course in Basic Reference. This chapter will cover how the investigation was conducted and how the materials for the audio-tutorial program were developed.

A. The Plan of the Investigation

University of Arizona students enrolled in the fall semester of the Graduate Library School's Basic Reference course were randomized into two groups. One group was conducted along the traditional lecture-type method of teaching and the other group, the experimental audio-tutorial method. Both groups were given the same material to cover and the same worksheet assignments. Both methods of teaching were conducted by the investigator. The study was replicated in the spring semester in order to insure adequate sample size.

The lecture group met at regularly assigned periods of time for lecture, discussion of assigned readings, and feedback on worksheets and tests. The audio-tutorial group met irregularly, with students working independently with the audio tapes in place of the lecture. The A-T group met with the lecture group for large group presentations, such as films, guest speakers, and testing, and in small groups for discussion of assigned reading.

The plan of the investigation called for a major revision of the tutorial material previously used by the investigator. These materials consisted of five taped units with study guides. The revisions consisted of the following activities:

1. The tapes of the original five-unit audio-tutorial programs were transcribed for revision. This revision resulted in dividing some of the units into smaller components of learning and adding two new units.

2. Once the tapes were transcribed, they were recorded in a sound studio--first by the investigator and later by a professional announcer. Revision also included the addition of musical introductions, endings, and breaks.

3. Worksheet assignments, assigned readings, and topics for discussion were reworked to fit into the new structure of the program.

4. The bibliographical essay and course examinations were revised.

Data were collected at the end of the fall and then again the spring semesters to determine whether students involved in an audio-tutorial program for Basic Reference would differ from those in the lecture method, in their knowledge of the tools and processes of reference, or in satisfaction with the course or their own performance and knowledge. The data were analyzed over the summer with final revision of the A-T program also being carried out at that same time. The final report, student and teacher manuals were completed in the early fall of 1976.

B. Sampling Procedures

The sample in the study was comprised of 63 students enrolled in the Basic Reference Course at the Graduate Library School of the University of Arizona in the Fall and Spring semesters of 1975 and 1976. The sample consisted of 50 graduate students, including 15 bilingual Spanish-speaking students and 12 undergraduates with upper-class standing. A total of 30 students were randomly assigned to the lecture group--19 in the fall semester and 11 in the spring; and a total of 33 students to the A-T group--24 in the fall semester and nine in the spring.

Students were informed at the start of the class that they would be assigned to two separate groups as part of an investigative study. They were allowed to drop the course prior to being assigned to a group but not after. Three students dropped the course in the fall semester; none dropped in the spring semester.

C. Design of the Study

The empirical design of the investigation was a posttest-only-control group design. With adequate sample size the randomization of individuals into the two groups is sufficient without pretest (Campbell and Stanley 1963). Two instruments were used to collect data on four dependent variables: a final examination which measured concrete and theoretical learning and a seven-point Likert-type scale which measured student satisfaction with course content and knowledge gained (See Appendix A). A t-test was used to determine significance, and data were analyzed at the computer center. Significance level was set at $p < .05$.

D. Development of the Audio-Tutorial Materials

The development of the materials for the audio-tutorial program for the course in Basic Reference was the major thrust of the investigation. The course program completed as a part of the study

consists of ten audio-tutorial units plus one introductory unit. Each of the ten audio-tutorial units includes a recorded tape, a bibliography of required reading--with suggested topics for discussion, additional information sheets, a study guide and a worksheet. The introductory lecture materials consist of a bibliography of required reading--with suggested topics for discussion.

The intended plan of use for these A-T materials was for students to listen to the recorded tapes using a laboratory collection of reference materials. While engaged in this activity students examined individual reference works and carried out learning activities. These activities were intended to aid in the development of a student's search skills and to enhance the learning process generally. In addition, students were assigned specific outside reading which dealt with a theoretical understanding of the reference process. Small discussion groups provided students with an opportunity to clarify concepts, explore weaknesses in learning and in general to test their knowledge quotient prior to formal examination.

The evolution of the growth and development of these audio-tutorial materials for Basic Reference proceeded over two semesters and the summer of 1975-76. Their chronological development, an outline of the completed project, and explanatory notes are described below.

1. Fall Semester Activity

During the fall semester the original five audio-tutorial units in Basic Reference, previously developed and used by the investigator, were revised. This activity included revising printed materials and transcribing, revising and re-recording audio tapes. Units of study were prepared shortly before use in class with the aid of the University of Arizona's recording studio--a service of the Bureau of Audio-Visual Services.

The decision to develop smaller components of study, which would cover the information more thoroughly, was based on experience with and feedback from students the previous year. Content of the recorded tapes included a discussion of the materials and concepts covered for a given unit and directions for studying a particular type of reference book. Determination about what reference book titles to include in each unit was based largely on a title's appearance in the course text, Introduction to Reference Work, 2v, by Katz, and its availability in the University of Arizona libraries. Some titles included in Katz were excluded simply in the interest of time, since, ultimately, the primary purpose of the A-T program was to teach reference technique.

Students reported a certain amount of tedium with the first tape; therefore, to avoid monotony and maintain learner interest and attention, music breaks with suggested activities were inserted. Occasional bits of anecdotal and/or humorous material were also included. A warm interpersonal tone and style were maintained throughout.

Additional readings were screened and added to the expanded course. The purpose of these readings was to give students information about using certain types of books in reference and to help them develop a better understanding of the theoretical concepts in the reference process. The topics for discussion were added to give students a focus for the small group discussions and to prepare them for the type of essay question which could be anticipated in examination.

Student comment during the fall semester regarding the audio-tutorial part of the course was generally favorable. Some weaknesses were noted, however. There was, for example, inadequate time to prepare the bibliographical essay, since the assignment was introduced toward the end of the course. Secondly, outside readings did not seem to follow an easily perceived and understood progression of learning. Some readings seemed to fit better in other units; others were felt to be repetitious or uninteresting. Dissatisfaction was also reported by some students with the conduct of the Small Assembly Sessions, which were viewed as overly structured and formal.

2. Spring Semester Activity

Although the original plan called for the study to be run in the fall semester only, the size of the sample was somewhat smaller than had been anticipated, based on enrollment figures from the previous year. Essentially for this reason, the experiment was repeated in the Spring semester--again, testing two groups: the basic lecture group and the audio-tutorial group. It also provided an opportunity to further evaluate the audio-tutorial materials.

Due to the experimental nature of the study, major changes could not be made in course content or sequence of presentation; however, the bibliographical essay was introduced at a slightly earlier date. Questions on the worksheets were revised to prevent student copying, and additional input from students was requested. Detailed notes were kept on each unit regarding even the most minor of logistical problems. Audio tapes were used again without revision; however, the two short quarter-term tests were rewritten in order to be free of copyright restrictions. Letters were mailed over the summer for permission to reprint such copyrighted materials as were included (See Appendix B).

3. Summer Activity

As the Audio-Tutorial Program for Basic Reference began to take shape and to prove itself a viable methodology of instruction in Basic Reference, the decision to upgrade the recorded portion was a natural development. Music from a record library and a professional announcer were secured for the final revision of the tapes. Unit content was reorganized around a more logical plan or progression of learning, and assigned readings and topics for discussion were given a final revision. Worksheet questions which had caused problems were rewritten for clarification, or omitted and new questions drafted. Answer sheets were double-checked as were all materials. The large amount of data made the possibility of error more frequent than desirable, and the replication of the study was useful in the correction of such error. The final draft of Student and Teacher Manuals for the Audio-Tutorial Program for Basic Reference were typed, ready for publication, with the end of summer seeing the completion of the revision of all materials. The Final Report was completed in September. The outline of the A-T Program follows in the section below.

4. Outline of the Audio-Tutorial Program for Basic Reference

The A-T Basic Reference Course is intended to meet three educational objectives:

a. At the cognitive level, to provide students with concepts and insights which will enable them to better understand the reference process.

b. At the affective level, to help develop in students a positive attitude toward providing service to all types of library users, plus an awareness of the significance interpersonal relationships and communication play in the negotiation of the reference question.

c. At the skills level, to provide the kind of learning environment whereby students can learn, through practice, the methodology of reference search procedure.

The Audio-Tutorial units in the Basic Reference course fit into the following plan of learning:

Unit I: English Language Dictionaries

Unit II: Supplementary Language Sources

Unit III: General Encyclopedias

Unit IV: Subject Encyclopedias

Unit V: Indexes, Abstracts and Bibliography

Unit VI: General Factbooks

Unit VII: Subject Factbooks

Unit VIII: Biographical Sources

Unit IX: Other Reference Sources

Unit X: Guides to Reference Sources

5. Explanatory Notes

The A-T Program begins with English language dictionaries, since they are the reference tools with which all students will be familiar. It is largely through this familiarity, that the student is led to understand that the professional knowledge a librarian has of reference books, is more thorough and detailed than that of even some of the more ardent scholars among the class. Units One and Two take a programmed approach to learning; that is, students are told about the materials while examining them, and asked to answer questions about what they have just been told, and to answer specific questions regarding the arrangement, scope and access of each title. In this way individuals are taught, not only about dictionaries, but also about how to approach and examine a reference book, which may at some future date, be unknown to them. Unit Three, which deals with general encyclopedias, approaches examination and evaluation through comparison studies of encyclopedia sets.

The first three units, then, deal largely with the materials of reference and only a little with theoretical concepts and insights. They provide instruction in how to study and examine reference books. Unit Two does, however, introduce the concept of reference as a process to the student. Background preparation regardin the history and development of reference is covered in the introductory lecture.

Unit Four introduces the student to the role of the reference librarian in relation to various types of libraries and professional responsibility to provide freedom of access to information. In addition, the student begins the intial steps in learning about search procedure in the reference process--using the tools covered in the unit to answer questions and give source documentation.

Unit Five deals with subject heading problems and the utilization of indexes, abstracts and bibliographies. A major assignment is begun in this Unit--to be completed by the end of the semester. This project involves the preparation of a bibliographical essay. Using the sources in the unit, students prepare the bibliographical essay on a subject of their own choosing.

Unit Six covers user information needs and emphasizes problems of outreach and reference services in relation to the "information poor." Types of reference questions are examined, and the student is asked to outline his/her search procedure in addition to answering questions on the worksheet. This search procedure documentation continues throughout the next two units--Units Seven and Eight.

Communication theory in relation to the reference interview is introduced to students in Unit Seven. In Unit Eight the relationship of the card catalog to the search procedure is explored. Units Nine and Ten deal with the evaluation of reference sources and services. Worksheets for these latter two units are simplified, allowing the student to answer a set of questions for Unit Nine, using unlimited resources; and in Unit Ten, returning once again to the careful examination of the reference tools used in their evaluation.

Chapter Two has covered the methods and procedures used in this study which was concerned with the development and testing of an Audio-Tutorial Program for a course in Basic Reference. The chapter has covered the plan of the investigation, sampling procedures, and design--along with the step-by-step development of the audio-tutorial program. The next chapter, Chapter Three, will cover data collection and results of the investigation.

CHAPTER III

DATA COLLECTION AND RESULTS

The present chapter deals with the collection and analysis of the data and results. It also includes a description of the experimental setting,and questionnaire and examination administration. Reliability measures of the dependent variable instruments are reported.

A. The Experimental Setting

The study, which dealt with the testing and development of an Audio-Tutorial program for a course in Basic Reference, was carried out at the Graduate Library School of the University of Arizona. General Assembly Sessions and Small Assembly Sessions were held in classrooms in the College of Education. The laboratory or self-study part of the audio-tutorial course was conducted in the Graduate Library School Library. Here, students from the audio-tutorial group made use of recorded tapes, headsets and players which were checked out to them for two-hour use. Students used a sign-up sheet located at the GLS desk to schedule as much time as desired--but no more than two hours at one sitting (see Appendix C). Most students signed up for two 2-hour sessions for a given unit.

A sample collection of reference books was made available in the Graduate Library School Library to both the A-T and lecture groups for examination and use in doing the worksheet assignments. Titles for each unit were pulled from the shelf as assigned and placed on a long table in the reference area. The majority of reference books used in the course were in this sample GLS collection; however, some tools, such as children's encyclopedias and other school-related bibliographies were housed in the Instructional Materials Center in the College of Education. Sources for Unit Five, which involved the preparation of the bibliographical essay, were located in either the Main or Science Library on campus.

B. Experimental Data Collection

The collection of data took place at the end of the fall semester and again at the end of the spring semester. Data were collected for each semester for two groups: the audio-tutorial group and the lecture group. Two instruments were used for data collection: a satisfaction questionnaire and a final examination (see Appendix A). The final examination, which was divided into two equal parts, measured through objective-type questions a student's knowledge of reference tools, and through essay-type questions, a student's understanding of the theoretical aspects of the reference process. Items numbered one to four of the Likert-type scale measured student satisfaction with

course methodology and content; items five through eight measured student satisfaction with his/her own performance in and knowledge from the course.

C. Examination and Questionnaire Administration

The satisfaction questionnaire was administered on the final day of class and was returned by students without signature. The investigator was not present in the room when students rated their satisfaction questionnaires. These sheets were collected by a student and returned to the GLS Program Director. They were not seen by the investigator until grades were recorded and turned in to the registrar's office. Students were informed as to what the procedure would be.

The final examination was administered during the period of time set aside for such testing on the university calendar. Students from both groups took the final exam at the same time. It was scheduled for two hours and consisted of both essay and objective-type questions. The same final examination was given in the fall and in the spring semesters. Final examinations were not returned to students.

D. Purpose and Variable Measures of the Experiment

The purpose of the investigation was to develop and test materials for an audio-tutorial course in Basic Reference. Students were randomized into two groups, and data were collected to ascertain whether students involved in an audio-tutorial program would differ from those in a lecture course.

1. The Independent Variables

The independent variables in the study consisted of two teaching methodologies for a course in Basic Reference. These methods were the audio-tutorial method--or experimental type and the lecture method--or control type.

2. The Dependent Variables

The dependent variables in the study were a student's (a) ability to express understanding of certain theoretical suppositions about the reference process; (b) knowledge of the basic reference tools, that is, their scope and potential use; (c) satisfaction with the conduct and content of the course; and (d) student satisfaction with his/her own performance in and knowledge from the course.

E. Method of Analysis

The data were analyzed using a t-test and a computer ANOVA program consisting of two groups and four variables. The t-test provides a statistical model useful for testing the significance of difference between the means of two populations. The t-test is based on the means and distributions of two samples (Williams, 1968). The significance level was set at $p < .05$.

F. Results of Data Analysis

The results of the data analysis are described in terms of four research hypotheses:

H_1: A student in an audio-tutorial course for Basic Reference will express greater understanding of certain theoretical suppositions about the reference process, than a student in a lecture course.

The results of data analysis did not support the first hypothesis. There was no significant difference between students in the audio-tutorial groups and those in the lecture groups regarding ability to understand theoretical concerns of the reference process. The tabulation regarding the hypothesis for the first variable appears in Table 1.

TABLE 1

VARIABLE 1 ANALYSIS

Source	Mean Square	D.F.	F-Ratio	P
Total	44.5565	62.		
Groups	17.3250	1.	.385	.5443*
Error (G)	45.0029	61.		
G Mean	1 94.8333	2 93.7833		
N Valid	33.	30.		

*Not significant

H_2: A student in an audio-tutorial course for Basic Reference will demonstrate a greater knowledge of the basic reference tools, including their scope and use, than a student in a lecture course.

The results of the data analysis did not support the second hypothesis. There was no significant difference between students in the audio-tutorial group and those in the lecture group regarding knowledge of the basic reference tools themselves. The tabulation regarding the hypothesis for the second variable appears in Table 2.

TABLE 2

VARIABLE 2 ANALYSIS

Source	Mean Square	D.F.	F-Ratio	P
Total	135.0151	62.		
Groups	8.3464	1.	.061	.8013*
Error (G)	137.0916	61.		
G Mean	1 82.3788	2 81.6500		
N Valid	33.	30.		

*Not significant

H_3: A student in an audio-tutorial course for Basic Reference will express more satisfaction with the conduct and content of the course than a student in the lecture course.

The results of the data analysis did not support the third hypothesis. There was no significant difference between students in the audio-tutorial course and those in the lecture group in response to their satisfaction with the methodology of the course. The tabulation regarding the hypothesis for the third variable appears in Table 3.

TABLE 3

VARIABLE 3 ANALYSIS

Source	Mean Square	D.F.	F-Ratio	P
Total	25.4147	62.		
Groups	58.3688	1.	2.347	.1269*
Error (G)	24.8745	61.		
G Mean	1 24.0606	2 22.1333		
N Valid	33.	30.		

*Not significant

H_4: A student in an audio-tutorial course for Basic Reference will express more satisfaction with his/her own performance and knowledge from the course, than a student in the lecture course.

The results of the data analysis supported the fourth hypothesis at the .05 level of confidence. Students in the audio-tutorial course expressed more satisfaction with their own performance and knowledge than those in the lecture group. The tabulation regarding the hypothesis for the fourth variable appears in Table 4.

TABLE 4

VARIABLE 4 ANALYSIS

Source	Mean Square	D.F.	F-Ratio	P
Total	21.9032	62.		
Groups	91.8909	1.	4.427	.0372*
Error (G)	20.7559	61.		
G Mean	1 24.4848	2 22.0667		
N Valid	33.	30.		

*Significant

G. Dependent Variable Reliability Measures

One of the most important aspects of any measure is its reliability. The internal consistency reliability of the dependent variable measures for this investigation was assessed as follows: Intercorrelation analysis was measured for the first test--the final examination--using a Spearman split-half method. Part 1-A or Part 1-B of the essay test--depending on which question a student answered--was correlated with Item Two. Items in the objective part of the final examination were randomized into two groups, based on the amount of the variable point credit for items.

The results of the correlation analysis were as follows: Correlation for item 1-A with Item 2 was = .5162; item 1-B with 2 was =-.0574. Split-half reliability for items on the objective part of the test was =.75. Items 1-A and B measured somewhat similar aspects of a student's understanding of the theoretical concepts of the reference process. Reliability scores for the first part of the essay test and for the objective part of the test are about normal for teacher constructed tests which have not been previously validated or improved upon (Nunnally, 1967). Items 1-B and 2 were totally unrelated measures, which would make the reliability of the essay score considerably lower for those students who selected item 1-B or the essay part of the test.

The internal consistency of the satisfaction instrument was measured using Crombach Alpha. The first subtest, which measured students satisfaction with course method and content (Items 1-4), had a Crombach Alpha coefficient of .89. The second subtest, which measured students satisfaction with their own performance and knowledge from the course (Items 5-8), had a Crombach Alpha coefficient of .74.

Chapter Three has covered the collection of the data, the experimental results of data analysis and measures of the internal consistency reliability of the dependent variable instruments. In this chapter it was reported that those students in an audio-tutorial course in Basic Reference did not differ significantly from those in the lecture course in either understanding of certain theoretical suppositions about the reference process or knowledge of the basic reference tools, or in satisfaction with the conduct or content of the course. Students in the audio-tutorial group were, however, more satisfied with their own performance in and knowledge from the course than those students in the lecture group. The analysis of the internal consistency reliability of the dependent variable measures were reported.

A summary of the investigation, the validity and reliability of the findings, limitations of the study and recommendations follow in the next and final chapter, Chapter 4.

CHAPTER IV

SUMMARY AND RECOMMENDATIONS

The purpose of this, the last chapter of the Final Report is to summarize the investigation, discuss the validity and reliability of the experimental results, and make recommendations for additional study and research. This chapter also identifies some limitations of the investigation and makes recommendations for the development of audio-tutorial programs for library school or program courses.

A. Summary Statement

The intent of the present study was to develop materials for and investigate the audio-tutorial method of learning as an alternative to the lecture method for a course in Basic Reference. While changing times demand newer methods of learning, teachers continue to teach with a 19th century philosophy of library education. Leaders in the field of library education have called for research into and development of new teaching methodologies which will make efficient use of our advanced technology and provide flexibility and individualization in learning.

Houston (1974) noted that there are two main forces in American society today which are pressing all educators to work out more effective methods of instruction. These two factors are accountability and personalization. Accountability asks of educators that their programs be fiscally, programmatically, and managerially accountable. Personalization is directed toward our societal needs reflected in Alvin Toffler's Future Shock. Basic library courses, such as reference, are frequently taught in what Dunkin (1968) termed donkey courses and elephant classes, with little regard for varied student backgrounds and experience levels. Students may become nothing more than numbers in a seat and papers to be graded.

This investigation, which was conducted at the Graduate Library School of the University of Arizona, sought to provide, in some small measure, one type of answer to current problems in library education. In the course of the investigation, ten audio-tutorial units for a course in Basic Reference and one introductory lecture unit, were developed and tested using two groups of students. The sample consisted of 63 students registered in the Basic Reference course in the fall and spring semesters of 1975-76. Using a control group-posttest only design, students were randomized into either the lecture or audio-tutorial group. The control or lecture group consisted of 30 students, and the experimental or audio-tutorial group, 33 students. Two small

subgroups within the sample consisted of undergraduate students and bilingual Spanish-speaking students. These students had an equal chance to fall within either group, and notattempt was made to test them separately.

Data were collected to determine whether students in the audio-tutorial group differed from those in the lecture group. Analysis consisted of a t-test with two group and four dependent variables. The four dependent variables were a student's ability to express understanding of certain theoretical suppositions about the reference process and a knowledge of the basic reference tools; plus a student's satisfaction with the conduct and content of the course and satisfaction with his/her performance in and knowledge from the course.

Two instruments were used to collect the data: The first, a final examination, measured theoretical knowledge through essay-type questions, and concrete knowledge of reference books through objective-type questions. The second instrument measured satisfaction using a seven-point Likert-type scale which consisted of eight items. The significnace level was set at $p < .05$.

The results of analysis suggested that students in the audio-tutorial group did not differ significantly from those in the basic lecture group in either theoretical or concrete learning or in satisfaction with the methodology or content of the course. However, students in the audio-tutorial program did express more satisfaction with their own knowledge from and performance in the course--or to put it more simply, were significantly more satisfied with themselves--than those in the lecture group.

The results of the experiment suggest that although the audio-tutorial method of study for a course in Basic Reference is not superior to the lecture method, it is indeed a viable alternative and may be used with confidence. The study also resulted in the refinement and professionalization of the investigator's previous audio-tutorial units. Authorization to seek a publisher has been given by the U. S. Office of Education. Publishing the materials would result in both print and reprint items being brought together for distribution and would provide effective dissemination of the Program.

B. Validity and Reliability of the Study

It is always reasonable to ask in an investigation of this type, just how good an answer the research provides. Questions of validity and reliability are pertinent in the interpretation of the results of data analysis. One significant factor in reliability--and therefore validity--is sample size. Since the investigation was replicated

to insure an adequate sample size, there is no reason for unreliability due to the size of the sample. A second factor of reliability may be the instruments used to measure the results. In the case of the satisfaction measure, the results of the findings appear reliable. The reliability of the third dependent variable was relatively high; however, no significant differences were found. Significant differences were found for the fourth dependent variable; therefore, both the reliability and sample size were adequate.

The reliability of the final examination which was used to measure the first and second variables--student knowledge of theoretical concepts regarding the reference process and student knowledge of reference books--was not found to have a high degree of internal consistency reliability. For this reason the analysis of the results for the first and second variables of the investigation may be called into question. This lack of reliability could account for the lack of significant difference found between the audio-tutorial and the lecture group on the final examination. Other limitations of the study are reported in Section C below.

C. Limitations of the Study

The study does not support that the audio-tutorial method of learning is a superior method of learning basic reference skills over the lecture method; nor, does the study suggest that the audio-tutorial method is necessarily suited to all types of library courses. It does, however, recommend the audio-tutorial approach as a viable alternative to the lecture method for teaching basic reference skills, with suggestions for effective utilization and/or preparations of these materials.

The significance of the fourth variable, student self-satisfaction was predictable. Students in the audio-tutorial group visibly demonstrated feelings of self-confidence and a lack of teacher dependence which is usually associated with personal growth and maturity. This characteristic of students in courses where the teacher is less visible than in the more traditional lecture courses was also noted by faculty at the School of Library Science, University of Southern California, Los Angeles. When the investigator visited this school's demonstration project under Martha Boaz, faculty there involved in similar research activities noted that when students were given control over their own learning, they were observed to exhibit a certain amount of self-confidence and personal growth not observable in students in regular courses.

While it would appear that student self-confidence would be a highly desirable result of the Basic Reference course when taught

using the audio-tutorial method, it is not possible to state with a high degree of confidence, as a result of this one investigation, that this will be an expected outcome. While it is logical to argue that one of the outcomes of any course method which stresses individualization should be student maturity and growth, it is important here to point out the possibility of Hawthorne effects (Simon, 1969). In a study where individuals know that they are subjects in an investigation, it is possible that outcomes may be the result of being part of an investigation rather than from a given experimental treatment. Therefore, the results of the fourth variable may be due to course method, or they may be due to feelings students experienced as a result of being included in an experimental group. Little publicity or comment was made regarding the investigation in order to minimize the possibility of the Hawthorne effect; however, it remains one of the uncontrolled variables, and only time and continued investigation will ultimately provide the answer. Meanwhile, the results of this investigation suggest that student personal growth may be an expected outcome of using the audio-tutorial method for a course in Basic Reference.

A final limitation of the study involves the students themselves. Students at the Graduate Library School of the University of Arizona are a closely knit group. Although only students who were cleared at the GLS desk could use the A-T materials, there is no certainty that students from both groups did not share some information prior to examination. A feeling was expressed by some members of the lecture group that those in the audio-tutorial group had superior notes. Both groups were given identical information. Such comments would suggest that certain students had access to notes from students not in their group. The effect of this fraternization among students from both groups may have been to lessen the amount of difference between the groups.

D. Recommendations

1. Suggestions for Further Research

Additional research should be continued into the newer methods of education for library courses directed toward the preparation of professional personnel. Such research should not only take into consideration the replication of the present study with improved measures and tighter controls, but could also involve comparative investigations between the audio-tutorial method of study and other methods, such as computer-assisted instruction and closed circuit or broadcast television courses. Such study might take into consideration factors regarding learning, student satisfaction, cost, efficiency, and other interests.

Courses other than Basic Reference may well be suited to this method of learning; therefore, investigation into the development and utilization of the A-T method for other basic library courses is strongly recommended. Suggestions for the preparation of such materials appears in Section C-3. Finally, the present A-T program should be validated using different groups of library students, including special groups such as Indian librarians, other bilingual and/or cultural groups, and programs limited to undergraduate students. Ultimately, it may have been an unrealistic expectation to anticipate finding differences in learning between two groups of graduate library school students, when those students' ability to learn--given any condition--has already been proven through a process of selection for library school.

2. Utilization of the Audio-Tutorial Method

There are a number of advantages in the utilization of the A-T method of teaching as an alternative to the lecture method. First, it is an economical and efficient system in that it frees both student and teacher from needless repetition and inflexible scheduling procedures. Once the program is fully developed, a teacher may comfortably work with a large group of students with ample time for individual guidance and instruction.

For example, in the fall semester of 1976, there are approximately 50 students in the University of Arizona's Basic Reference class. All of them are participating in the audio-tutorial program. Ten one-hour General Assembly Sessions are scheduled during the semester and will be conducted by the instructor. Two of the sessions are for the purpose of testing; the others are for the purpose of giving general information and allowing for guest speakers.

Four discussion groups are scheduled to meet for one-hour eight times during the semester. These Small Assembly Sessions are conducted by two quarter-time graduate student assistants who have previously taken the course. These assistants correct the weekly worksheets and generally assist the instructor in the General Assembly Sessions. The balance of the instructional program is individualized and self-taught with scheduling the student works out for him/herself. All tests and the bibliographical essay are graded by the instructor.

Weekly "rap sessions" are also held with both graduate assistants and the instructor in attendance. Coffee and good conversation on any topic are available to those students who wish to participate. Regular office hours are scheduled by all members of the audio-tutorial instructional team.

The flexibility of the audio-tutorial system goes beyond the formal school or program. The A-T Basic Reference course can be used by professionals in need of a refresher course in reference and by students working off-campus. It also holds promise for educational programs using competency based or modular instructional

approaches which require students to complete a given level of competency before moving on to new learning components. The A-T approach may also be entirely individualized with each student working at his/her own pace. While the adaptibility of the A-T System is readily apparent, it should also be recognized that the higher the degree of individualization which is built into the program, the more teacher time that may be needed.

3. Preparation of Audio-Tutorial Materials

The suggestions which follow in this section are based on the investigator's opinions, on conversations with Dr. Postlethwait(1973), and experience in developing the present basic reference course. As such, the remarks are not intended to be fixed rules, but rather helpful guidelines for those who may wish to develop such materials.

One of the first prerequisites of the audio-tutorial method is a willingness on the part of the instructional designer or teacher/developer to look at learning in new ways. Simply putting the old lectures on tape will not meet the goals of the A-T System. Learning objectives must dictate the content and methodology of the course.

A second consideration is whether the audio-tutorial method will, in fact, contribute to the learning objectives. Is the information best given in this way or would a print form be as applicable? The audio-tutorial method suggests the utilization of many forms of materials--print, audio, visual, and realia. It often requires the use of some type of laboratory facility and regards student involvement as the key to learning. Courses which seem best suited to this method of learning, therefore, are those which involve students in some type of manipulative activity. For example, use of a computer terminal, instruction in the operation of audio-visual equipment, preparation of audio-visual materials, or cataloging may be suited to the A-T System. Other non-professional skills might also be considered for training library aides: book mending, care of audio-visual materials, or circulation procedures--to name a few. Audio-tutorial modules may be more appropriate in some learning situations than entire courses.

A third consideration in the preparation of audio-tutorial material is the need to personalize as well as individualize the materials. Students working alone need to feel a sense of rapport with the individual giving the taped instructions and to have access to members of the instructional team for advice and supportive counseling when it is needed. The overall tone of the materials should be that of a "good" teacher on one end of the log tutoring a student on the other.

A fourth consideration when undertaking in-house preparation of materials for an audio-tutorial program, is the quality of the

materials used. Today's student is a sophisticated user of commercial media and tends to lack confidence in materials which reflect shoddy or amateurish workmanship. Audio-tapes or other nonprint media used in such a program should be of the highest quality. Sound should be prepared in a studio, an individual with a professional quality voice employed for narration, and when using music, it must be cleared for such use--normally from a music library. Visual media should also reflect the same careful attention to professional workmanship and detail. A word of caution seems pertinent at this point. No copyrighted materials may be used in the development of an audio-tutorial program without permission. The duplication of music and other print/nonprint materials without permission or compensation is unlawful.

A fifth and final consideration in the preparation of audio-tutorial materials is the need for learner verification and revision (Thiagarajan 1976). A teacher working with the development of A-T materials for the first time should not attempt to build an entire course, but should experiment with several sample units. Tryouts with feedback from students and input from other experts will help to establish practical guidelines for revision, and the development of future materials. Ultimately, empirical testing should follow at some specified point. However, initially, mass testing programs are probably no more useful than small group tryouts which involve the developer in face-to-face evaluation with students.

Learner verification of LVR is a pointless task unless the developer is willing to accept criticism and allow for revision. Individuals with a background in programmed instruction and instructional design should be employed for advice if the developer does not have such a background. Ultimately, it is up to the developer/researcher to remember that students are people--not just samples in a study--and their opinions and feelings are the single most valuable resource in improving the education of future librarians.

To summarize: This study was undertaken in response to a demonstrated need to develop library courses which are flexible, individualized, and personalized. In the course of this project a ten-unit Audio-Tutorial Program for a course in Basic Reference was developed. The advantages of such a program over the more traditional lecture approach are as follows: First, the audio-tutorial method places responsibility for learning with students by placing them in control of their own learning processes. Students responded favorably to this increased independence and appeared, after an initial adjustment period, to be quite satisfied with the method.

Secondly, the audio-tutorial method is individualized and personalized. Students come to graduate library school with varied backgrounds and experiences. The audio-tutorial method permits students to proceed at a pace which allows for these differences. The instructor is retrievable on tape for as much repetition as needed. Since a student can replay a tape as often as desired, it was not suprising to find that students in the audio-tutorial group reportedly had better notes than those in the lecture group--although both groups were given the same information.

The laboratory approach to the study of reference tools makes the audio-tutorial method personalized. Describing reference tools orally in class lecture, or bringing them to class for "show and tell" does not provide students with the kind of hands-on approach that will allow them to become familiar with these titles in a natural way. The laboratory approach simulates on-the-job training in that a student examines each title while it is being described by the instructor. The lecture approach would appear to encourage rote memorization, while the audio-tutorial method is designed to help students learn reference tools through familiarity.

Thirdly, the audio-tutorial method is a flexible and economical system. The A-T method frees the teacher from monotonous repetition of class presentations which describe reference tools; thereby, leaving time for small group discussions regarding theory and practice and for individual counseling. Students liked scheduling their own time and meeting in small groups which encouraged participation in discussion. It is an economical system in that the materials used are inexpensive to duplicate, and less teacher time and classroom space are required. The method insures that for a course with a specific and well defined body of data, this information will be transmitted in its entirety--accurately and precisely. The lecture method cannot provide for this type of control.

The findings of the study did not suggest that the audio-tutorial method for teaching Basic Reference is superior to the lecture approach regarding what students learn; however, the lack of reliability for the final examination used as the dependent variable measure would cast doubt on the validity of these findings. On the other hand, student satisfaction with the information gained and student performance in the course was significantly higher for the audio-tutorial group than for the lecture group. The findings for this variable were statistically reliable and should be considered one of the strengths of the A-T method--personal growth being a desirable outcome in the professional preparation of individuals.

A few of the written comments from students in the audio-tutorial group on the final evaluation form follow below:

I especially liked the worksheet and using the tapes. It helped to organize the sources in my mind and I could use the taped lectures at my convenience. I consider this course to be the most significant I've taken so far in library school.

I normally look forward to these little sheets to ventilate all the animosity I have accumulated towards the instructor by the end of the semester. However this time my reasons for anticipation are different. In all honesty this has been my very favorite class ever.

Having the class broken into smaller units was very helpful in learning to know people and work with your group. It was more like a team than a class.

So glad I got in the A-T group, in spite of my original misgivings.

Ultimately, the success or failure of any method of learning depends to a large extent on the willingness of both teachers and students to take the risk of experimentation, to seek/provide feedback, and to revise endlessly. It's a team effort involving the cooperation of administration, faculty and students whose readiness to accept change makes an investigation such as this possible.

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APPENDIX A

BASIC REFERENCE

Final Exam

Directons: PLEASE READ CAREFULLY

Do not sign your name to this paper. Instead, sign your name and the number that appears in the upper right-hand corner of this page on the three by five card which has been passed out to you along with your test. Return both clipped together. They will later be separated before grading.

The examination is made up of two parts: an essay part and an objective part. Each part is worth 100 points. Answer either part A or B of question #1 and answer question #2. Answer all questions in the objective part of the exam.

Exam time: 2 hrs.

Essay Part - total: 100 pts.

1. On the paper provided, answer one of the following parts of question #1. (65pts)

   A. Discuss the reference process as it has evolved historically,

   or

   B. Discuss the reference process as a communication event.

2. Using your bibliographical essay as the major example, discuss how the search process for a specific search question differs from the ready reference type questions which have been on your worksheets. Tell what some of the problems you encountered were, how they were solved, if possible, and generally, what you learned from the experience. (35pts)

* * * * * * * * * * * * *

Objective Part total: 100 pts.

3. What is biography? (2pts)

4. How does biography differ from bibliography? (3pts)

5. What is bio-bibliography? (2pts)

6. What is genealogy? (2pts)

7. How does genealogy differ from biography? (3pts)

8. What is an atlas? (2pts)

9. How is an atlas the same/different from a gazeteer? (3pts)

10. What is an index? (2pts)

11. How does an index differ from an abstract? (3pts)

12. Identify the following abbreviations: (7pts)

    a. DAB: _____

    b. CBI: _____

    c. ERIC: _____

    d. DNB: _____

    e. PAIS: _____

    f. RIE: _____

    g. CIJE: _____

13. Name the three basic ways in which biographical sources are organized. (6pts)

14. How may they be further subdivided from the above? (2pts)

15. If you were doing research on the history of printing in the United States, would the National Encyclopedia of American Biography be helpful to you? Why? (3pts)

16. Would Biography Index give you access to current studies on the work of Galileo? (1pt)

17. What three events laid the foundations of reference service in 1876? (6pts)

18. Why must the reference librarian make use of the Who's Who series of biographical dictionaries with caution? (2pts)

19. What valuable contribution to reference service has been made by the Wilson Company? (2pts)

20. What are two major concerns regarding the purchase of abstracts and indexes for a reference collection? (4pts)

21. Insert one of the following names in the correct space for each sentence: (8pts)

W. W. Bishop	Pierce Butler	Samuel Swett Green
William A. Katz	S. R. Ranganathan	Anita Schiller
Louis Shores	James I. Wyer	

a. In the article, "Reference Becomes Learning," _____ _____calls reference "The Fourth R."

b. The notion that reference service is the prepotent achievement of humanism belongs to _____

c. _____was probably the first librarian to write significantly to the point of reference service.

d. The notion that reference librarians have a teaching obligation has been sharply questioned by_____ _____.

e. The first librarian to suggest the concept of "in aid" in reference librarianship and also the "self-denying ordinance was_____

f. _____is the author of the reference textbook, INTRODUCTION TO REFERENCE WORK.

g. The reference process was described in terms of conservative, moderate and liberal or ideal by _____.

h. However,_____described it in terms of levels: elementary, intermediate and advanced.

22. Indicate the best source <u>title</u> for the answer to the following questions: (8pts)

a. Who, what or where is Chandra?

b. Henry Green is the pseudonym of an English novelist. What is his real name?

c. In what year did Albert Schweitzer win the Nobel Peace Prize?

d. What is the circulation of the Chicago Tribune newspaper?

e. When was James Owen Hannay born and what is/was his nationality?

f. What is the approximate value of the title, Hill's Manual of Social and Business Forms: Guide to Correct Writing, published in Chicago in 1896, by Hill Standard Book Co.?

g. Locate a photograph of contemporary writer Sally Benson who died in 1972.

h. Where can you find a source which will supply a patron with the record of past Rhodes Scholars?

23. Match the following retrospective bibliographies with the dates of coverage: (9pts)

1500?-1892	_____	PUBLISHERS' TRADE LIST ANNUAL
1639-1800	_____	AMERICAN BIBLIOGRAPHY; A PRELIMINARY CHECKLIST (Shaw & Shoemaker)
1801-1819	_____	DICTIONARY OF BOOKS RELATING TO AMERICAN FROM ITS DISCOVERY TO THE PRESENT TIME (Sabin)
1820-1861	_____	UNITED STATES CATALOG; BOOKS IN PRINT
1820-1861	_____	BIBLIOTHECA AMERICANA (Roorbach)

1861-1870	_____	AMERICAN BIBLIOGRAPHY: A CHRONOLOGICAL DICTIONARY OF ALL BOOKS, PAMPHLETS AND PERIODICAL PUBLICATIONS PRINTED IN THE UNITED STATES OF AMERICA ... (Evans)
1872 -	_____	AMERICAN CATALOGUE OF BOOKS (Kelly)
1876-1910	_____	AMERICAN CATALOGUE OF BOOKS (Publisher's Weekly)
1899-1927	_____	UNITED STATES CATALOG; BOOKS IN PRINT

24. Briefly (2 or 3 sentences) answer the following questions: (4pts ea.)

a. What is the invisible college?

b. Explain the statement that libraries are not "people places."

c. What is the Education vs. Information argument about?

d. When should you use a community resource file?

e. What is inter-library loan?

APPENDIX A (continued)

REFERENCE COURSE EVALUATION

This form is for your evaluation of the basic reference course. We have tried to cover many aspects of the course. The best answer to each question is your personal opinion.

Check the space which best describes your evaluation for the course.

1. How satisfied were you with the overall course?

Very dissatisfied	Dissatisfied	Slightly dissatisfied	Neutral or Average	Slightly satisfied	Satisfied	Very satisfied

2. How satisfied were you with the way the course was taught?

Very dissatisfied	Dissatisfied	Slightly dissatisfied	Neutral or Average	Slightly satisfied	Satisfied	Very satisfied

3. How satisfied were you with the content of the course?

Very dissatisfied	Dissatisfied	Slightly dissatisfied	Neutral or Average	Slightly satisfied	Satisfied	Very satisfied

4. How satisfied are you with the way the course met the objectives set at the beginning of the semester?

Very dissatisfied	Dissatisfied	Slightly dissatisfied	Neutral or Average	Slightly satisfied	Satisfied	Very satisfied

5. How much did you enjoy taking this course?

/	/	/	/	/	/	/
Did not enjoy at all	Did not enjoy	Slightly did not enjoy	Neutral or Average	Enjoyed slightly	Enjoyed	Enjoyed very much

6. How satisfied are you with the amount of effort you put into this course?

/	/	/	/	/	/	/
Very dis-satisfied	Dissatis-fied	Slightly dissatis-fied	Neutral or Average	Slightly satisfied	Satis-fied	Very satisfied

8. How much did you enjoy working with the instructor?

Did no enjoy at all	Did no enjoy	Slightly did not enjoy	Neutral or Average	Enjoyed slightly	Enjoyed	Enjoyed very much

9. Additional Comments:

APPENDIX B

American Library Association

MEMORANDUM

To: Helen M. Gothberg, Asst. Professor, University of Arizona
College of Education, Graduate Library School, Tucson, AZ 85719 Date: 7/28/76

From: [redacted] Office of Rights & Permissions - Michele Heinz

Re: Permission request - to reproduce "Criteria for Evaluating a Bibliography"
for Audio-Tutorial Program for Basic Reference

We are pleased to grant you permission to [redacted] reproduce from the following source(s):

Criteria for Evaluating a Bibliography

We ask that you use the following credit line(s):

"Reprinted by permission of the American Library Association"

Furthermore, we ask:

_____ a fee of $_____. Make check payable to the American Library Association and send to my attention.

_____ that_____ copies of your publication be sent to the American Library Association, to my attention.

Comments:

/mh
cc: A. Hansen

FIELD ENTERPRISES EDUCATIONAL CORPORATION
MERCHANDISE MART PLAZA
CHICAGO, ILLINOIS 60654

June 29, 1976

Dr. Helen Gothberg
Assistant Professor
The University of Arizona
College of Education
Graduate Library School
1515 East First Street
Tucson, Arizona 85719

Dear Dr. Gothberg:

Thank you for your letter requesting permission to use material from one of our supplementary publications. We are pleased to hear from you.

We are delighted that you wish to use the following two charts from "The Encyclopedia: A Resource for Creative Teaching and Independent Learning":

'Skills Needed in Using an Encyclopedia' from page 17
'Using the Encyclopedia in the Learning Process' from page 19

It is our understanding that you wish to use these charts in an audio-tutorial program, which you have developed from a course you teach. One unit in the course is in Basic Reference in encyclopedias. This is the unit in which our charts would be used. It is further understood that the audio-tutorial program is funded by the U.S. Office of Education for one of its ERIC files.

We anticipate no problem in granting you permission to use our charts for this purpose. However, before doing so, we would appreciate knowing the title of your audio-tutorial program and whether or not our material is to be reprinted or recorded.

Thank you for getting in touch with us, and we look forward to hearing from you again.

Sincerely yours,

Clare Atwood

Clare Atwood
Permissions Editor

CA:jz

THE WORLD BOOK ENCYCLOPEDIA / CHILDCRAFT—The How and Why Library
CYCLO-TEACHER® Learning Aid / THE WORLD BOOK DICTIONARY / THE WORLD BOOK aTLAS
THE WORLD BOOK YEAR BOOK / SCIENCE YEAR / CHILDCRAFT ANNUAL

FIELD ENTERPRISES EDUCATIONAL CORPORATION
MERCHANDISE MART PLAZA
CHICAGO, ILLINOIS 60654

July 23, 1976

Dr. Helen Gothberg
Assistant Professor
Graduate Library School
College of Education
The University of Arizona
1515 East First Street
Tucson, Arizona 85719

Dear Dr. Gothberg:

We appreciate your supplying us with the additional information we requested regarding your study. And, we are pleased to grant you permission to reprint the following two charts for inclusion in "A Comparison Study of Two Teaching Methodologies for a Course in Basic Reference":

'Skills Needed in Using an Encyclopedia'
'Using the Encyclopedia in the Learning Process'

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Sincerely yours,

Clare Atwood

Clare Atwood
Permissions Editor

CA:bjh

THE WORLD BOOK ENCYCLOPEDIA / CHILDCRAFT—The How and Why Library
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THE WORLD BOOK YEAR BOOK / SCIENCE YEAR / CHILDCRAFT ANNUAL

APPENDIX C

USING THE REFERENCE LABORATORY COLLECTION

The lab section of the audio-tutorial program for Basic Reference is conducted through open scheduling in the Graduate Library School (GLS). You are to schedule your own time on the sign-up sheet for use of the A-T mode of the program--this includes using audio-tapes and tape recorders.

Six recorders are available for two-hour use in the GLS. Six additional tapes are available for three-day check out. You may, if you wish, use library resources other than the Lab; however, you must supply your own recorder in that case.

You are to reserve blocks of time--any amount you wish, but no more than two hours at a given setting--using the sign-up sheet in the library. This sheet is kept at the circulation desk, and a sample is attached for your information. You are to sign your name in one of the slots provided. Each square represents an hour of time--except the last square in the lower right-hand corner which is for two hours: 7-9p.m.

If you plan to leave before the end of an hour, note this fact after your name. For example, "John Doe--10:30 in the 10-11 square. Please cross out your name when you leave--or if you find you do not need the time reserved. If you are more than fifteen minutes late, your time may be given to another student.

Equipment, headsets and audio tapes are checked out from the circulation desk. Reading materials for each unit are also on reserve at the circulation desk.

REFERENCE COLLECTION USE
DATE:

8 - 9 a.m.	9 - 10 a.m.	10 - 11 a.m.	11 - 12 a.m.
1.	1.	1.	1.
2.	2.	2.	2.
3.	3.	3.	3.
4.	4.	4.	4.
5.	5.	5.	5.
6.	6.	6.	6.
12 - 1 p.m.	**1 - 2 p.m.**	**2 - 3 p.m.**	**3 - 4 p.m.**
1.	1.	1.	1.
2.	2.	2.	2.
3.	3.	3.	3.
4.	4.	4.	4.
5.	5.	5.	5.
6.	6.	6.	6.
4 - 5 p.m.	**5 - 6 p.m.**	**6 - 7 p.m.**	**7 - 9 p.m.**
1.	1.	1.	1.
2.	2.	2.	2.
3.	3.	3.	3.
4.	4.	4.	4.
5.	5.	5.	5.
6.	6.	6.	6.